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INTERSTATE ANTELOPE CONFERENCE

1978 TRANSACTIONS

Papers presented at the annual meeting held in Alturas, California on March 13, 1979 are included in these transactions.

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Chairman: William Foree
Nevada Department of Fish and Game

CONFERENCE GUIDELINES

1. The annual meeting will be held on the second Tuesday in March at Alturas, California. The 1979 meeting will be held on March 11, 1980.
2. The chairmanship of the conference will rotate between the four agencies represented. The Oregon Department of Wildlife will provide the 1979 Chairman, with U.S. Fish and Wildlife Service and California following in that order. The 1979 Chairman will be responsible for conducting the March 1980 meeting.
3. Each contributing agency shall provide 100 unstapled copies of their formal presentation. These shall be on standard 8 ½" X 11" paper with pages unnumbered, printed single space on one side only, and with a margin of 1 ½ inches for binding. The first page of the report shall carry the title, author's name, author's title, and organization.
4. The Chairman is responsible for compilation of the Conference Transactions covering that period for which he serves.
5. Transactions will be distributed in accordance with standing requests of participating agencies. Additional requests from other agencies, departments, and bureaus shall be honored at the discretion of the Chairman subject to availability. Added requests received by Conference members should be forwarded to the Chairman with a "Send" or "No Send" recommendation. Distribution of the 1977 Transactions was as follows:

<u>AGENCY</u>	<u>NO. COPIES</u>
California Department of Fish and Game 1416 Ninth Street Sacramento, California 95814	15
Nevada Department of Fish and Game P. O. Box 10678 Reno, Nevada 89510	15
Oregon Department of Fish and Wildlife P. O. Box 3503 Portland, Oregon 97208	15
Bureau of Land Management Federal Office Building 2800 Cottage Way, Room E-2820 Sacramento, California 95825	4

<u>AGENCY</u>	<u>NO. COPIES</u>
Bureau of Land Management 300 Booth Street Reno, Nevada 89502	6
Bureau of Land Management P. O. Box 2965 Portland, Oregon 97208	5
Modoc National Forest Alturas, California 96101	6
Fremont National Forest P. O. Box 551 Lakeview, Oregon 97630	2
U.S. Fish and Wildlife Service P. O. Box 111 Lakeview, Oregon 97630	10
National Park Service Klamath Falls Group P. O. Box 128 Klamath Falls, Oregon 97601	2

6. The current Chairman shall notify the following as to the time and place of the Conference. These individuals will have the responsibility for notifying those interested parties in his particular jurisdiction as to the time and place of the meeting.

<u>NAME</u>	<u>AGENCY</u>	<u>ADDRESS</u>
Director	Nevada Department of Fish and Game	P. O. Box 10678 Reno, Nevada 89510
Paul Ebert	Oregon Department of Fish and Wildlife	P. O. Box 3503 Portland, Oregon 97208
Dave Luman	Bureau of Land Management	P. O. Box 2965 Portland, Oregon 97208
Vic Masson	Oregon Department of Fish and Wildlife	P. O. Box 8 Hines, Oregon 97738
Stan Thompson	California Department of Fish and Game	P. O. Box 1480 Redding, California 96001
Refuge Manager	Sheldon-Hart Mountain Refuges	P. O. Box 111 Lakeview, Oregon 97630
Refuge Manager	Klamath Basin National Wildlife Refuges	Route 1, Box 74 Tulelake, California 96134

ATTENDANCE ROSTER

1978

<u>NAME</u>	<u>AGENCY</u>	<u>ADDRESS</u>
Richard A. Gerity	Bureau of Land Management	P. O. Box 151 Lakeview, Oregon 91630
Walter Devaurs	Bureau of Land Management	P. O. Box 151 Lakeview, Oregon 91630
Jim Torland	Oregon Fish and Wildlife	P. O. Box 8 Hines, Oregon 97738
Don Klebenow	University of Nevada, Reno	Reno, Nevada 89512
Jim Hainline	USFWS, Tulelake	Route 1, P. O. Box 74 Tulelake, California 96134
Dave Sinclear	Modoc N.F.	P. O. Box 818 Tulelake, California 96134
Bill Donati	Lava Beds National Mon.	P. O. Box 867 Tulelake, California 96134
Steve Sherman	Bureau of Land Management	P. O. Box 151 Lakeview, Oregon 91630
Bill Britton	F.S.	P. O. Box 806 Alturas, California 96101
Carlos Pinto	F.S. Modoc N.F.	441 Main Alturas, California 96101
Doug Thayer	California Fish and Game	P.. O. Box 1623 Alturas, California 96101
Jo Meeker	University of Nevada, Reno	Reno, Nevada 89512
Jim Yoakum	Bureau of Land Management	P. O. Box 9098 Reno, Nevada 89507
Ken Voget	USFWS - Sheldon-Hart Mt.	P. O. Box 111 Lakeview, Oregon 97630
Larry Warden	USFWS - Sheldon-Hart Mt.	P. O. Box 111 Lakeview, Oregon 97630
Clark Bloom	USFWS - Modoc N.W.R.	P. O. Box 1610 Alturas, California 96101
Bill Foree	Nevada Dept. of Fish and Game	1475 Harmony Road Winnemucca, Nevada 89445

<u>NAME</u>	<u>AGENCY</u>	<u>ADDRESS</u>
Superintendent	Lava Beds National Monument	P. O. Box 867 Tulelake, California 96134
Forest Super- visor	Fremont National Forest	P. O. Box 551 Lakeview, Oregon 97630
W. M. Shaw	Idaho Department of Fish and Game	P. O. Box 25 Boise, Idaho 83707
Bill Radtky	Bureau of Land Management	Federal Office Building 2800 Cottage Way Room E-2820 Sacramento, California 95825
Forest Super- visor	Modoc National Forest	Alturas, California 96101
Jim Yoakum	Bureau of Land Management	300 Booth Street Reno, Nevada 89502
Superintendent	National Park Service Klamath Falls Group	P. O. Box 128 Klamath Falls, Oregon 97601

G. Production

The 1978 bid results, obtained during the January bond competition, were 25 bids per 100 acres. The total was up from 14 bids per 100 acres over 1977 and five bids per 100 acres below the previous five year average. This was the second consecutive year of very low bid production. Bid production was then declining or low since 1975.

H. Harvest

The 11th annual competitive hunt was held in northeastern California from August 28 through September 4, 1978. Adult bucks only were legal. Four hundred permits were issued at a statewide drawing. The permit fee was increased from \$15.00 to \$20.00. The low bid was \$100.00 for a 100 acre hunting unit due to inflation. The hunt was well attended with over 1000 hunters. All permits were required to report on the number of deer killed through the tag and report card system.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME

I. Herd Surveys

A. Annual Census

The annual aerial census of antelope in northeastern California was conducted January 16, 17, 18 and 19, 1979. Counting conditions were very poor. Patchy snow conditions existed on most winter ranges. Cloud cover and fog prevailed during the counting period. Antelope were scattered on winter ranges and along migration corridors. Due to weather conditions and time constraints the interstate ranges in Surprise Valley were not checked. Good coverage of all winter ranges was not achieved.

Five thousand ninety eight (5,098) antelope were counted in the basic California population. This count is down 774 animals or 13 percent from 1978. The 1979 count is the second highest on record and is 197 animals or four percent higher than the five year average of 4,901 animals. The 1979 population is 3,318 animals or 186 percent higher than the low population year of 1960 with 1,780 antelope.

B. Buck-Doe Ratio

The annual aerial herd composition survey in northeastern California was conducted July 24, 25, 26, 27 and 28, 1978. Counting techniques were basically the same as used in past years. A modified sampling method was again used in 1978. This sampling method eliminates specified locations which have consistently shown low or zero counts (See 1977 report).

During the 1978 survey 2,557 antelope were classified. The buck ratio was 32 bucks per 100 does. This ratio is up three bucks per 100 does over the 1977 ratio and the previous five year average ratio.

C. Production

The 1978 kid ratio, obtained during the summer herd composition counts was 39 kids per 100 does. The ratio was up one kid per 100 does over 1977 and five kids per 100 does below the previous five year average. This was the second consecutive year of very low kid production. Kid production has been declining or low since 1975.

D. Harvest

The fifteenth consecutive hunt was held in northeastern California from August 26 through September 4, 1978. Adult bucks only were legal. Four hundred permits were issued on a statewide drawing basis. The permit fee was increased from \$15.00 to \$35.00. The fee increase was necessary to defray rising costs due to inflation. The hunt area was divided into seven zones. All hunters were required to report on the success of their hunt through the tag and report card system.

Hunters reported taking 352 antelope for a success ratio of 88 percent. This is the highest hunter success ratio recorded for California. Hunter success has averaged 80 percent for the past five years.

The percent of yearlings in the kill increased from 21 percent in 1977 to 22 percent in 1978. During the past 12 hunts the percent of yearlings in the kill has ranged from 12 to 36 percent. The percent of four years and older age class animals in the 1978 kill was 31 percent. This was down from the 38 percent recorded in 1977 and the record of 48 percent recorded in 1976.

The eighth annual hunter orientation session was held in Alturas the day before the hunt began. There were 121 people in attendance. Of these, 86 were permit holders. The 86 permit holders represents 22 percent of the hunters. These orientation sessions have proven to be an excellent hunter and public relations media.

During the past 15 years California has issued 4,725 antelope permits. Hunters have taken 3,585 buck antelope for a success ratio of 76 percent. Antelope numbers are 95 percent higher than they were in 1964 when the series of hunts began.

The California Department of Fish and Game has requested a special antelope hunt for 1979. The request calls for 375 permits with regulations to be the same as in 1978.

II. Range Surveys

A. Weather Conditions

Seasonal precipitation for 1977-78 was below normal. Summer water supplies were greatly improved over 1977. Seasonal precipitation through February 1979 is below normal.

B. Range Modification

None specifically for antelope. The trend in the conversion of private lands to alfalfa production is continuing.

C. Range Conditions

Late spring rains in 1978 produced excellent forage growth.

III. Miscellaneous

A. Disease

No disease outbreaks were reported in 1978.

During the 1978 hunting season 42 blood samples were collected from hunter killed antelope. These samples were tested for blue tongue. Fifty five percent were positive for antibody to the blue tongue virus. None of the animals sampled was carrying that virus when killed. Two of 26 animals had low titers to toxoplasma and antibodies to ovine progressive pneumonia were absent in all 26 samples tested.

B. Tagging and Marking

No tagging and marking programs were conducted in 1978.

The 70 antelope translocated from Willow Ranch to Skidaddle Ranch in 1977 have apparently found the area unsuitable. This transplant may have resulted in a range extension into Honey Lake Valley.

IV. Summary

The 1979 census showed the basic California antelope population to be 5,098 animals. This count was down 774 animals or 13 percent from 1978. The 1979 population is four percent higher than the previous five year average.

The 1978 buck ratio was 32 bucks per 100 does. This was up three bucks per 100 does over the 1977 ratio and the previous five years average ratio.

The 1978 kid ratio was 39 kids per 100 does, up one kid per 100 over 1977 and five kids per 100 does below the previous five year average. The 1979 ratio was the second consecutive year of very low kid production.

The fifteenth consecutive hunt was held in 1978. Four hundred permits were issued. Hunters reported killing 352 antelope for a success ratio of 88 percent. This was the highest hunter success ratio on record in California.

Summer water supplies were much improved over 1977.

Forage conditions were considered excellent for 1978.

*See 1977 report for years prior to 1973.

TABLE III

*Buck Antelope Kill by Hunter

Year	Permits Issued	Antelope Killed	Hunter Success Ratio
1973	381	307	.81
1974	410	304	.74
1975	325	170	.52
1976	373	306	.82
1977	345	271	.78
1978	400	352	.88

*See 1977 report for years prior to 1973.

TABLE I

*Winter Aerial Census in Northeastern California

Year	Total Counted	**Erratic Winter Population	Basic California Populations
1974	4747	0	4747
1975	4109	0	4109
1976	4987	118	4869
1977	4908	0	4908
1978	5872	0	5872
1979	5098	Not Counted	5098

*See 1977 report for years prior to 1974.

**Erratic winter populations occupying interstate ranges east of the Warner Mountains subtracted from total, leaves the basic California population.

TABLE II

*Antelope Herd Composition Summary

Year	Population	Ratio Bucks:Does:Kids			No. Classified
1973	4357	34	100	42	2769
1974	4747	26	100	41	2711
1975	4109	28	100	51	2844
1976	4869	26	100	48	2886
1977	4908	29	100	38	2873
1978	5872	32	100	39	2557

*See 1977 report for years prior to 1973.

TABLE III

*Buck Antelope Kill by Season

Year	Permits Issued	Reported Kill	Hunter Success Ratio
1973	385	305	.79
1974	410	284	.69
1975	225	170	.76
1976	375	306	.82
1977	325	271	.83
1978	400	352	.88

*See 1977 report for years prior to 1973.

1978 ANTELOPE STATUS REPORT

SHELDON-HART MOUNTAIN NATIONAL WILDLIFE REFUGES

I. HERD SURVEYS

A. Annual Census

1. Results of a January 25, 1978 census were included in last year's report. Oregon Department of Fish and Wildlife, on a flight in February, found 2,373 head compared to 1,670 that we reported. All of the additional antelope were on Big Springs Table. A tentative 1979 census indicates 2,800 head on the winter range which would be the largest population since 1954 when 2,568 were recorded. The low count was 875 in 1955. This 25 year record will be discussed again in the predation section of this report.

TABLE - 1

ANTELOPE WINTER POPULATIONS AND DISTRIBUTION SHELDON-HART MOUNTAIN BIOLOGICAL UNIT

	<u>Big Springs</u>	<u>Gooch</u>	<u>Sage Hen</u>	<u>Hart Mountain</u>	<u>Total</u>
1978	1815	200	0	358	2373
1977	52	351	1121	422	1946
1976	79	489	630	346	1544
1975	1081	280	493	174	2028
1974	358	443	766	209	1776
1973	380	445	721	90	1636
1972	1038	443	0	39	1520
1971	1095	599	510	103	2307
1970	1189	335	569	114	2207
1969	1435	330	0	0	1765

2. The herd composition survey was flown on July 18, 19, 20. Ratios and herd size were not significantly different from last year's.

TABLE - II
SUMMER POPULATION TRENDS

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Hart Mountain Biological Unit*	454	646	496	369	1046	636	552
Sheldon Biological Unit	728	792	867	549	799	1060	1056
Total Sheldon-Hart Mountain	1182	1438	1363	918	1845	1696	1608

* Biological Unit areas described in 1975 Conference Report

B. Buck-Doe Ratio

The combined ratio for Sheldon-Hart was down from 28 bucks/100 does last year to 25. The buck ratio increased on Sheldon, but decreased on Hart Mountain and Sage Hen Hills. Perhaps this is due to the observers missing bachelor bands or to a difference in distribution of some bands. (See Table III.)

C. Production

Production was low again this year with a combined ratio of 21 kids/100 does. For the first time since 1971 Hart Mountain had a lower production (14 kids/100 does) than Sheldon (21 kids/100 does).

TABLE - III

SUMMER HERD RATIOS
SHELDON-HART MOUNTAIN BIOLOGICAL UNITS

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Number Classified	1182	1423	1363	918	1832	1696	1608
Bucks	261	265	328	164	296	321	271
Does	667	925	906	570	977	1142	1107
Kids	254	233	129	174	559	233	230
Bucks/100 does	39	29	36	29	30	28	25
Kids/100 does	38	25	14	31	57	20	21
Kids/100 adults	27	20	10	24	44	16	17

D. Harvest

Trophy class antelope hunting programs continued for the 12th year on Sheldon Range and the 11th year on Hart Mountain Refuge. On Sheldon 30 permits were split with 15 hunters allowed from 8/26-9/4 and 15 hunters from 9/2-9/11. Hart's 15 permit holders could hunt 8/19-8/23. Tables IV and V summarize results since the hunts began.

TABLE - IV

SUMMARY OF SHELDON ANTELOPE HUNTS

Year	No. Hunters	Successful	% Success	Boone & Crockett Scores		
				High	Low	Average
1967	10	10	100	75-5/8	45-1/8	69-2/8
1968	10	10	100	81-2/8	64-2/8	73-6/8
1969	20	20	100	78-4/8	64-3/8	70-3/8
1970	20	17	85	86-2/8	57-4/8	72-5/8
1971	19	18	95	81-4/8	46-6/8	73-5/8
1972	20	17	85	80-4/8	63-1/8	71-4/8
1973	20	20	100	84-	59-2/8	72-6/8
1974	20	19	95	85-2/8	63-4/8	70-6/8
1975	20	19	95	87-4/8	64-	74-6/8
1976	24	24	100	86-	54-6/8	73-7/8
1977	25	24	96	90-6/8	63-3/8	76-7/8
1978	30	28	93	82-6/8	57-7/8	72-1/8

TABLE - V

SUMMARY OF HART MOUNTAIN ANTELOPE HUNTS

Year	No. Hunters	Successful	% Success	Boone & Crockett Scores		
				High	Low	Average
1968	10	9	90	82-	65-6/8	74-5/8
1969	16	15	94	77-6/8	64-2/8	70-3/8
1970	15	15	100	81-6/8	65-2/8	73-
1971	14	11	79	75-	65-4/8	69-4/8
1972	15	15	100	78-4/8	53-	69-7/8
1973	16	13	81	79-	57-4/8	68-4/8
1974	15	14	93	81-5/8	53-4/8	69-2/8
1975	15	11	73	77-4/8	46-6/8	68-5/8
1976	16	16	100	88-4/8	62-2/8	72-6/8
1977	15	15	100	81-2/8	66-2/8	74-1/8
1978	15	15	100	76-4/8	59-	67-3/8

Age of Harvest

Again this year, one incisor was collected from each jaw for aging by the Matson Lab in Missoula, Montana. For Sheldon the average age went

down to 4.5 years from 6.5 last year. Hart Mountain's average was down from 4.5 to 3.5. The number of animals judged to be 3.5 to 2.5 from Sheldon went from 13% in 1977 to 57%, Hart showed a change from 46% in 1977 to 87% in 1978. There were no yearlings taken on either refuge.

Looking at the shift in 4.5 or younger, we find an interesting difference between the two refuges.

Percent of Antelope Harvested 4.5 Years or Less of Age				Average Boone & Crockett Score	
	1977	1978	Diff.	1977	1978
Sheldon	21	82	61	76-2/8	72-1/8
Hart Mountain	73	87	14	74-1/8	67-3/8

II. RANGE SURVEYS

A. Weather Conditions

Weather was favorable for antelope through the year. Cold storms predominated the weather during May and early June, but there was no evidence this caused loss of kids (See Section D, Research).

B. Range Modification

On Sheldon two springs were developed and the south boundary fence was finished.

A contractor trapped 460 horses from the horse management units, leaving 75-100 head as specified in the management plan. A new contract in 1979 will cover removal of all 150 head from Gooch Table, plus 50-75 in small scattered herds. Control of Hart Mountain's herd of 150-200 may be included in the new contract.

Hart Mountain constructed 11 new trench reservoirs, and rehabilitated four others. Nine miles of the NE boundary was fenced, with 7.5 miles to be built in 1979 to finish the job.

Sheldon's Coordinated Resource Management Plan has been completed. Grazing systems have been worked out and some will begin in 1979. Some interior fencing and water development is needed to fully implement all systems.

C. Range Evaluation

Range Consultant, Bill Anderson, and Refuge Range Conservationist, Dave Franzen, made an ecological condition and trend study on Sheldon in June. The following is excerpts of their report.

"Objectives"

- "1. To attempt to document the changes in ecological condition that have taken place in the past decade by comparing the vegetational

cover in 1978 with that of 1964.

2. To establish a series of photo-point plots of which vegetational changes in future years can be monitored periodically as the Coordinated Resource Management Plan is applied to the land.

Forty-one study plots were selected primarily on the basis of accessibility and suitability as photo-point plots for monitoring future vegetational changes. All plots selected are accessible to livestock grazing and not located adjacent to water.

Evaluation of Changes in Ecological Condition

On the 1978 plots located on "Little Sheldon" where a planned grazing system has been in effect, the vigor of key forage grasses was rated medium or high. Except for a few exceptions, the vigor on the remainder of the Sheldon was mostly low or barely medium. Vigor was not noted in the 1964 data so comparisons could not be made.

In general the changes in ecological condition, i.e. kind and amount of perennial climax species on major upland sites on the Sheldon from 1964 to 1978 has been slightly upward from POOR toward FAIR condition class. Because of its extensiveness and biological importance on the Sheldon, one notable exception is the upland 691 Claypan Terrace site which has generally remained static in FAIR condition class. Bottomland sites have remained static in POOR condition class.

Whatever slight improvement is indicated, data provides little or no consolation to concern over the kind of cattle, horse and wildlife grazing that occurred during these past 14 years. Such change for the good may appear to be a notable improvement over the previous miserable condition which existed in 1964. But it is trivial when compared to what these sites' potentialities really are.

Although comparisons between 1964 and 1978 could not be made on "Little Sheldon" because of missing 1964 data, it is important to note that the 621 Stony Terrace, 613 Shrubby Rolling Hills and 1124 Dry Meadow ecological sites on that area are top ranked in ecological condition among all the other examples of these sites on the Sheldon. It is very likely that the planned grazing system, which has been in effect on "Little Sheldon" since about 1950 has contributed to this favorable condition.

In contrast, the 690 Arid Loamy Terrace site in the Big Springs Table area, which has not been grazed by cattle for about 40 years, has made significantly less recovery since 1964 than the sample of this site in the nearby Sagehen area. In the Sagehen area, the site appears to have been grazed closely by horses each winter but

was grazed very little, if at all, during the growing season because of a lack of stockwater. This is an example which shows that certain kinds of annual grazing promotes healthy plants and keeps them from becoming stagnant or decadent."

Past grazing season utilization checks are now an annual procedure on the refuges.

III. MISCELLANEOUS EVALUATIONS

A. Disease

None observed.

B. Predation

Low production, possibly due to predation has been a concern. Our records are reasonably consistent back to 1955. A kid mortality study was begun in May with the radio collaring of 13 kids. Two others were under observation when killed by coyotes so were included in the sample for a total of 15. This was reduced to 14 when one transmitter is assumed to have failed. Nine of the 14, or 64% were determined to have been killed by coyotes. No predation by eagles or bobcats was seen.

Predator control ceased in 1967 on Sheldon and Hart Mountain, but the population has shown an increase.

	<u>KIDS/100 DOES</u>			
	<u>Average</u>	<u>High</u>	<u>Low</u>	
1955-66	63	99	33	Predator Control
1967-78	25	51	8	No Control

	<u>WINTER CENSUS</u>			
	<u>Average</u>	<u>High</u>	<u>Low</u>	
1955-66	1471	1895	875	Predator Control
1967-78	1855	2373	1435	No Control

C. Food Habits

Antelope feces were analyzed as part of the horse-antelope competition study but the results are not yet available.

D. Research

1. Horse-antelope competition

This is a two-year study by Jo Meeker for a Master's Degree through the University of Nevada. Field work was completed this summer. Results will be discussed in next year's report.

2. Antelope fawn mortality

Mark McNay, Master's Degree Candidate, Montana Cooperative Wildlife Research Unit, will return in April, 1979 to continue the work. The following is extracted from his progress report.

"Thirteen fawns were collared between May 15 and May 30. Two fawns were under observation when killed by coyotes, giving a total sample of 15 fawns. As of September 1st they fell in the following categories:

Mortality	-	9-coyote involved 1-malnutrition and/or abandonment 1-exposure and/or abandonment, evidence of coyote feeding
-----------	---	--

11-11/14=79%

Survival	-	3-all collars were dropped by September 3
----------	---	--

3-3/14=21%

Transmitter

Failure	-	1-last signal received in June
---------	---	--------------------------------

Fawns were located (radio and visual) every second or third day. Bed sites were flagged at the site and plotted on a map for further study. Triangulation was used to locate fawns moving with doe herds.

Vegetation height with 33, 3x6 decimeter quadrats in a 4m radius of the actual bed. Where a bed site laid adjacent to a different habitat type, measurement was made in the different type. At all sites measurements of non-use similar sites located 20 yards North of the bed were made. Plants were identified to species in most cases."

Three fawns killed by coyotes were recovered and judged to be in excellent physical condition. They were necropsied by Bart O'Gara, Unit Leader at the Montana Coop Unit.

Some biologists have assumed that there is a direct relationship between abundance of alternate prey species and predator pressure on antelope kids.

Evaluation of this question is not part of the present study. However, coyotes were not seen hunting the abundant rabbits and rodents on the study areas during the kidding season.

Other work. McNay also reported:

"Approximately 40 hours of observation time was logged in a breeding buck behavior study. Movements of a recognizable buck were plotted on acetate overlays. A grid system was used on the overlays, time distribution information, # does present, buck-buck encounters, SPUD marking and sub-auricular marking were recorded.

Approximately 50 coyote scats were collected throughout the summer to gain information on the diet of this predator. Scats are presently frozen in the Unit freezer.

Information collected at three hunter check stations will be used to indicate nutritional condition of pronghorns on the range. Tissue samples from approximately 40 bucks have been sent to the University of Idaho for trace element analysis. Lung tissue for parasite investigation from approximately 40 bucks is frozen in the Unit freezer. Numerous body measurements, age weight, Boone and Crockett scores, and kidney fat indices were also taken".

3. Movements, nutritional status and breeding behavior

This study, also through the Montana Cooperative Wildlife Research Unit will begin in 1979. Jo Meeker, who did the horse-antelope competition study, has been selected to do the field work for a PH.D.

Objectives are:

1. To mark, with radio and rope collars, a large number of pronghorns during winter and follow their dispersal to seasonal ranges.
2. To evaluate, by blood parameters, the nutritional status of trapped pronghorns.
3. Study breeding behavior of bands on playas compared to territorial breeding on adjacent uplands.

4. Controlled burn of short sage

In August 770 acres within a 3,000 acre area on Hart Mountain were burned in a mosaic pattern. Vegetation plots and wildlife use transects have been established for long-term monitoring.

IV. SUMMARY

- A. A February 1978 survey found 2,373 antelope on Sheldon-Hart Mountain winter range. The largest count since 1954.

- B. The combined buck/doe ratio remained the same but was up on Sheldon and down for Hart Mountain.
- C. Production remained low at 21 kids/100 does but was lower on Hart Mountain than on Sheldon for the first time since 1971.
- D. Another successful quality hunt was held on both Sheldon and Hart Mountain.
- E. According to age by tooth section, there was a significant shift to younger age in bucks harvested on both refuges.
- F. Four-hundred-sixty horses were removed from Sheldon out of a population of approximately 800.
- G. Coyotes may be taking over 50% of the kids during early life, but the population is increasing.
- H. Research is in progress on horse-antelope competition, kid mortality, seasonal movements, breeding behavior, physical condition, and response to burned areas.

V. RECOMMENDATIONS

- A. Hunting - No significant changes.
- B. Range Modifications - Implement Coordinated Resource Management Plan on Sheldon. Complete the removal of excess feral horses from both refuges.
- C. Predator Control - None proposed this year.
- D. Research - Continue present studies. No new research proposed.

NORTHWESTERN NEVADA ANTELOPE STUDIES
BILL FOREE
GAME AGENT II
NEVADA DEPARTMENT OF FISH AND GAME

I. HERD SURVEYS

A. Annual Census

Aerial surveys conducted in March, 1978 showed a count of 2,675 antelope. This was an increase of 56 animals or 2.1% more than that counted in 1977 and was the highest count on record. From a high of about 2000 antelope in 1951, numbers declined to a low of less than 1000 in 1956. From that low, population levels have increased to present levels. Most of this increase has been in northern Washoe County, particularly in the Smoke Creek and Hart Camp units. In part, some of this increase can be attributed to better survey coverage in recent years. Table I gives a five year population trend by unit.

B. Buck-Doe Ratio

Of 2,675 antelope counted in March, 1978, 652 were bucks and 2,023 were does for a ratio of 32 bucks per 100 does. This compares to a ratio of 37 bucks per 100 does in March, 1977. Again in 1978, yearling bucks were classified to gage recruitment. This data showed about 10 kids per 100 does compared with the previous August ratio of 40 kids per 100 does apparently indicating a 75% loss. Data collected during summer helicopter surveys obtained a ratio of 14 yearlings per 100 does in the herd for a 65% loss. Either way the loss appeared high. Classification of yearling bucks in the herd can be fairly accurate if small groups of antelope are encountered. However, in large groups, using fixed wing aircraft, classification of yearling bucks is extremely difficult.

C. Production

Of a sample of 2,114 antelope classified in August, 1978, composition was 324 bucks, 1,271 does and 519 kids giving a ratio of 25B/100D/41K. This compares with a ratio of 39B/100 D/39K in 1977. Summer buck-doe ratios obtained can vary depending on the year. This variation varies with actual numbers, but also due to the distribution of bucks as singles or small bachelor groups in response to range and water conditions. During particular years, numbers of bucks can be missed during the survey because of a high dispersal. Intensive survey coverage is required during this situation.

Kid production remains poor in all units with the New Year Lake and Santa Rosa units consistently having the lowest production. The

area biologist covering northern Washoe County feels that the heavy loss of kids indicated during the winter of 1977-78 may have resulted in part from the drought conditions during the summer of 1977 coupled with the above average precipitation during the winter. These same factors may have influenced kid production in 1978 compared with 1977 inspite of improved forage conditions. There may have been some lag in the does' physiological response to improved forage conditions. Production data for 1978 is shown in Table II.

D. Harvest

The 1978 regular antelope hunting season ran from August 26 through September 4 except on the Sheldon where it continued through September 11. The Sheldon has an early and late hunt. A total of 295 tags were available in northwest Nevada in six units including the Sheldon. There were 2,061 applications for tags, a ratio of 7 to 1. Of 291 returned report cards, 286 hunters reported harvesting 248 antelope for a success of 87%. This was one percent below the record high successes reported in 1976 and 1977. Age class data obtained at a checking station in Gerlach showed that almost 50% of the bucks harvested were at least 4 years old. Table III summarizes harvest data for 1978.

The 89 antelope checked at Gerlach had an average Boone and Crockett green score of 69.421. This is slightly above the average score of 68.560 obtained in 1977. Age class data is presented in Table IV. Table V compares average Boone and Crockett scores with age class.

An antelope archery season was held from July 29 through August 13, 1978 with 200 tags available on a statewide basis excluding the Sheldon. The results of this hunt have not been made available at this time.

II. RANGE SURVEYS

A. Weather-Precipitation

Winter precipitation was at least 25% above normal with substantially more snow obtained than the previous two winters when drought conditions prevailed. Summer precipitation was above 20% of normal with most occurring in April and September with very little being received during the intervening months at most stations.

B. Range Modifications

None were reported on antelope ranges in 1978.

C. Range Evaluation

Range conditions were relatively good due to increased precipitation during the winter and early spring. Water distribution was good allowing for a better distribution of antelope.

III. MISCELLANEOUS EVALUATION

A. Disease

None reported.

B. Predation

No predation was observed nor was any special effort made to determine if any significant amount occurred. The Sheldon Refuge, through radio telemetry, turned up some interesting findings on coyote predation on antelope kids.

The two principle predators on antelope, the coyote and bobcat, remain at relatively high densities throughout the area inspite of increased harvest and high fur prices. Not much information is available on the population trends of these two predators. Rabbit populations are believed now at a peak and will probably decline in the future.

C. Food Habits

Fecal samples collected during a Bureau of Land Management study comparing horses, cattle and antelope forage preferences on the Owyhee Desert were analyzed microhistologically at Colorado State University. The results showed a two percent similarity of diets between antelope and cattle and horses during the fall season and a 60% similarity in diets of horses and cattle. Spring collections showed a two percent similarity in diets between antelope and horses, a four percent similarity in diets between antelope and cattle and a 44% similarity in diets between cattle and horses. The diet of antelope in November was found to be 96% sagebrush while horses and cattle consumed about the same percentage of grasses.

IV. SUMMARY OF DATA

A. Aerial surveys in March observed a sample of 2,675 antelope, the highest count ever recorded.

B. An estimated overwinter loss of 65% occurred in the 1977 kid crop as projected by the number of yearling bucks remaining in the herd in August, 1978.

C. Production averaged 41 kids per 100 does in 1978 compared to 39 kids per 100 does in 1977.

D. Hunter success in 1978 was 87% and the second highest on record. About 50% of the bucks harvested were at least four years old.

E. Above normal precipitation was received with a good snowpack for the first time in three years. Range and water conditions improved substantially.

V. RECOMMENDATIONS

A. Continue annual aerial herd composition surveys to measure antelope population trend and production.

B. Continue trophy hunts based on surplus bucks available by unit.

C. Continue to monitor the impact of various grazing systems on antelope populations.

D. Continue to provide land management agencies with antelope habitat needs and recommendations for achieving these.

Herd Composition 1975

Date	No. Classified	Bucks	Does	Kids	6/300 B	6/100 B
New Year Lake	280	13	200	65	18	23
Hart Camp	598	88	328	173	37	53
Becker Creek	878	124	515	244	33	47
Summit Lake	208	25	136	59	25	31
Kings River	372	15	28	23	14	17
Sanita Area	278	32	196	45	17	23
TOTAL	2,414	378	1,271	519	125	164

TABLE XIV
Harvest 1976

Date	No. Yags	No. Winters	No. Hunting	Harvest	% Success
New Year Lake	30	29	29	23	79
Hart Camp	15	54	41	34	82
Becker Creek	72	74	73	60	82
Summit Lake	25	25	25	24	96
Kings River	16	18	18	8	50
Sanita Area	30	29	28	10	35
Medden	30	30	30	20	67
TOTAL	278	289	274	219	79%

TABLE I
Population Trend

<u>Unit</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
New Year Lake	126	60	216	422	244
Hart Camp	934	693	581	898	1,204
Smoke Creek	404	502	692	694	538
Summit Lake	266	200	181	237	270
Kings River	147	121	104	36	96
Santa Rosa	367	362	297	332	323
TOTAL:	2,244	1,938	2,071	2,619	2,675

TABLE II
Herd Composition 1978

<u>Unit</u>	<u>No. Classified</u>	<u>Bucks</u>	<u>Does</u>	<u>Kids</u>	<u>B/100 D</u>	<u>K/100 D</u>
New Year Lake	280	35	200	45	18	23
Hart Camp	590	88	329	173	27	53
Smoke Creek	639	124	351	164	35	47
Summit Lake	204	29	116	59	25	51
Kings River	123	15	79	29	19	37
Santa Rosa	278	33	196	49	17	25
TOTAL:	2,114	324	1,271	519	25	41

TABLE III
Harvest 1978

<u>Unit</u>	<u>No. Tags</u>	<u>No. Return</u>	<u>No. Hunting</u>	<u>Harvest</u>	<u>% Success</u>
New Year Lake	30	29	29	23	79
Hart Camp	95	94	91	84	92
Smoke Creek	75	74	73	60	82
Summit Lake	25	25	25	24	96
Kings River	10	10	10	9	90
Santa Rosa	30	29	28	20	71
Sheldon	30	30	30	28	93
TOTAL:	295	291	286	248	87%

TABLE IV
Antelope Age Class Distribution

Year	Yearling		2 Years		3 Years		4 Years		Total
	No.	%	No.	%	No.	%	No.	%	No.
1974	7	10.9	14	21.9	8	12.5	35	54.7	64
1975	1	2.9	3	8.8	6	17.6	24	70.6	34
1976	6	18.2	6	18.2	6	18.2	15	45.5	33
1977	19	21.8	20	23.0	15	17.2	33	37.9	87
1978	11	12.4	17	19.1	17	19.1	44	49.4	89
TOTAL:	44	14.3	60	19.5	52	16.9	151	49.3	307

TABLE V
Average Boone and Crockett Score by Age Class
1978

Yearling		2 Years		3 Years		4 Years		Total	
No.	Avg. Score	No.	Avg. Score	No.	Avg. Score	No.	Avg. Score	No.	Avg. Score
11	48.20	17	69.75	17	69.125	44	74.70	89	69.421

C. Production

Fawn production gathered in the August aerial and ground surveys was 13 fawns per 100 does. This compares to 38 fawns last year and the ten year average of 36 fawns. Fawn/adult ratios for the Central Region continue to be the lowest in the state with 18 in the Pauline, 19 in the Silvies and 30 in the Intermountain. No significant increase in fawn survival during kidding season occurred in areas of coyote control when compared to trends of other areas except the Pauline Unit that went from 11 to 13.

Oregon Antelope Report - 1978
Jim Torland - Wildlife Biologist
Oregon Dept. of Fish & Wildlife

I. Herd Survey

A. Annual Census

The 1978 spring aerial census was completed in March on most ranges. Antelope herds started breaking up early and counting efforts had to be accelerated to complete the inventory. Even though some biologists felt the counts may be conservative because of conditions, the herd averaged 2.5 antelope per mile compared with 2.2 last year and a ten-year average of 1.9. A total of 9,845 antelope were counted on 3,995 miles of aerial routes. (Table 1)

B. Buck-doe Ratios

Aerial composition surveys of antelope were more difficult because of the abundance of water and forage. Also temperatures were unusually warm during the period of census. Observation of 3,618 antelope averaged 25 bucks per 100 does. (Table 2) This compares to 26 bucks last year and a ten year average of 28 bucks. A slight decline in buck ratios would be expected after the low fawn crop in 1977.

C. Production

Fawn production gathered in the August aerial and ground surveys was 35 fawns per 100 does. This compares to 30 fawns last year and the ten year average of 36 fawns. Fawn/adult ratios for the Central Region continue to be the lowest in the state with 18 in the Paulina, 19 in the Silvies and 20 in the Interstate units. No significant increase in fawn survival during kidding season occurred in areas of coyote control when compared to trends of other areas except the Paulina Unit that went from 11 to 18.

D. Harvest

Seventy-nine percent of the 1,150 hunters who drew controlled buck antelope tags reported a hunting success of 67% during the Aug. 19-23 season. (Table 3) Although tag quotas were reduced 18% from 1977, hunting success dropped from 75% last year to 67%. Wide distributions of the antelope because of excellent forage and water conditions influenced hunter success. The 18% cut back was an administrative attempt to improve the quality of hunting and reduce take of yearling bucks.

A total of 130 doe antelope tags were available to rifle hunters in two management units. Hunter success was 82% despite the fact that the anticipated build-up of antelope in Bear Valley did not occur and the taking of a doe then was much more difficult than expected. Illegal kills of bucks was minimal.

The Gerber Reservoir archery hunt had 200 tags again this year. At least two bucks were known taken during this 9-day hunt.

Total hunter days for buck, doe and archery hunts was 2532. Based on an economic value of \$51.65 per hunter day, the total economic value of antelope hunting in Oregon for 1978 was \$131,000.

II. Range Surveys

A. Weather Conditions - Precipitation

The 1978 weather conditions were just the opposite of the previous year. Precipitation went from a record low to a record high. Animal distribution reflected improved water conditions.

B. Range Modifications

Several large scale alfalfa ranches were started on antelope ranges in the Beatys Butte Unit. The developers were advised of the conflicts that will probably occur and none were very concerned.

C. Range Evaluation

Range conditions were the best on record.

Summary of the percent of the 1,150 hunters who drew controlled
 both antelope tags reported a hunting success of 67% during the
 Aug. 10-12 season. (Table 2) Although tag quotas were reduced
 15% from 1977, hunting success dropped from 75% last year to 67%.
 With distribution of the antelope because of excellent forage
 and water conditions influenced hunter success. The 15% tag back
 was an administrative attempt to improve the quality of hunting
 and reduce take of yearling bucks.

A total of 150 deer antelope tags were available to rifle
 hunters in the management units. Hunter success was 81% despite
 the fact that the anticipated build-up of antelope in Bear Valley
 did not occur and the taking of a doe fawn was much more difficult
 than expected. Illegal kills of bucks was minimal.

The other hunter success archery hunt had 100 tags again this
 year. At least two bucks were known taken during this 9-day hunt.
 Total hunter days for buck, doe and archery hunters was
 1511. Based on an economic value of \$21.65 per hunter day, the
 total economic value of antelope hunting in Oregon for 1978 was

\$32,500.

C. Range Conditions

A. Weather Conditions - Precipitation

The 1978 weather conditions were just the opposite of the
 previous year. Precipitation went from a record low to a record
 high. Annual distribution reflected improved water conditions.

B. Range Modifications

Several large scale wildlife ranches were started on antelope
 ranges in the Pacific States Unit. The developers were advised of
 the conflicts that will probably occur and some were very con-
 cerned.

C. Range Evaluation

Range conditions were the best on record.

III. Miscellaneous

A. Disease, Parasites

No evidence of mortality from disease or parasites was found.

B. Bear Valley Antelope Herd

About one-half of the expected number of antelope showed up in the valley in 1978. Only 247 were inventoried during the August counts. Excellent range and water conditions probably detained part of the herd during migration. Bucks per 100 does remained the highest in the state at 71 per 100 doe. Fawn production dropped from 73 to 50 which is the lowest in many years. (Table 4) No explanation is offered for this at this time.

C. Virtue Flat Antelope Herd

In 1969, eleven antelope were livetrapped and transplanted from Central Oregon near Bend, and placed in the Lookout Mountain Management Unit near Baker. This herd has increased to 84 animals. These, along with about 100 native antelope in the unit, make up a huntable population that has had about 30 tags in recent years.

IV. Summary

A. The population index increased in 1978. The 9845 antelope counted was the highest count ever recorded. The Harney District counts represented 58% of the total.

B. Herd composition work revealed 25 bucks per 100 does. This compares to 28 bucks in a 10-year average. A slight decline in buck ratios was expected after the low fawn crop in 1977.

Fawn crops increased from 25 to 30 fawns per 100 doe but still remained below the 10-year average of 36.

Table 1

1978 AERIAL ANTelope SURVEY

C. A total of 1150 rifle tags for bucks, 130 doe tags and 200 archery tags were available to hunters in 1978. The rifle tags represent about an 18% reduction from biological recommendations. Based on a 79% report card return, buck hunters took 589 antelope for 67% hunter success. Seventy-two percent of the doe hunters said they took 72 animals for 82% success. Two bucks were taken by archery hunters. An economic value of \$131,000 was derived from antelope hunting in Oregon in 1978.

D. Range conditions were excellent from spring through the fall.

V. Recommendations

A. Discuss the problem of low kid survival on our desert ranges with Department and University personnel. Attempt to develop interest in a study of this problem.

B. Check possibility of surveying antelope hunters through the hunter report card to see if they are satisfied with their hunt.

C. Coordinate research efforts on interstate herds.

Alvina	Orlago	125	116	1.3	2.2	1.6
	Barney	65	54	1.4	2.9	1.4
Shasta Mts.	Barney	227	242	1.5	3.1	1.8
Maui	Lake	105	133	3.0	1.5	1.3
Whitehorn	Malheur	100	272	0.9	0.8	1.3
TOTALS AND AVERAGES		3,095	3,245	2.0	2.2	1.6

Table 1
1978 AERIAL ANTELOPE INVENTORY

Unit	District	Miles	Antelope	Antelope per Mile		
				1978	1977	10-Year Average
Beatys Butte	Harney	900	2,569	2.9	2.3	2.4
Beulah	Malheur	175	230	1.3	1.3	2.7
Ft. Rock-Silver Lk.	Lake	225	279	1.2	1.3	0.8
Grizzly	Ochoco	20	51	2.6	2.6	-
Interstate	Lake	50	82	1.6	2.2	1.3
Juniper	Harney	240	901	3.8	5.6	2.1
	Lake	50	197	3.9	3.7	3.4
Malheur River	Harney	140	1,226	8.8	5.7	4.4
	Malheur	100	45	0.5	-	-
Maury	Deschutes	200	181	0.9	1.1	0.8
	Ochoco	125	549	4.4	0.9	2.5
Murderer's Creek	Harney	40	29	0.7	13.0	3.8
Ochoco	Ochoco	125	424	3.4	4.3	1.9
Owyhee	Malheur	285	452	1.6	1.5	2.8
Paulina-Wagontire	Deschutes	450	740	1.6	1.1	1.7
	Harney	60	20	0.3	2.0	1.0
Silvies	Ochoco	125	136	1.1	2.2	1.6
	Harney	60	94	1.6	2.9	1.4
Steens Mt.	Harney	220	845	3.8	2.1	1.8
Warner	Lake	105	523	5.0	1.5	3.5
Whitehorse	Malheur	300	272	0.9	0.6	1.3
TOTALS AND AVERAGES		3,995	9,845	2.5	2.2	1.9

Table 2

1978 ANTELOPE HERD COMPOSITION

Area	Wildlife Management District	Antelope Classified				Bucks			Fawns		
		Bucks	Does	Fawns	Total	Per 100 Does			Per 100 Does		
						1978	1977	Ave.	1978	1977	Ave.
Beatys Butte	Harney Lake	72	369	109		20			30		
		32	151	72		21			48		
		104	520	181	805	20	29	26	35	24	34
Beulah	Malheur	18	46	15	79	39	35	29	33	29	39
Interstate	Klamath Lake	17	87	28			20			32	
		1	15	11							
		18	102	39	159	18	-	-	39	-	-
Juniper	Harney Lake	51	169	36			24		10		
		4	75	11							
		55	244	47	346	23	26	27	20	25	27
Malheur	Harney	26	93	37	156	28	21	33	40	35	37
Maury	Ochoco	37	79	26	142	47	8	31	33	31	26
Murderer's Cr.	Harney	79	112	56	247	71	71	52	50	73	73
Ochoco	Ochoco	34	215	129	378	16	36	33	60	42	49
Owyhee	Malheur	8	13	6	27	-	13	19	-	13	26
Paulina- Wagontire	Deschutes Lake	17	110	20		15			18		
		17	72	37							
		34	182	57	273	19	21	22	32	14	24
Silver Lake- Fort Rock	Lake	20	50	14	84	40	-	-	28	-	-
Silvies	Ochoco Harney	11	58	11		19	5		19	23	
		10	34	10		29			29		
		21	92	21	134	23	4	22	23	27	29

Table 3

1978 BUCK ANTELOPE SEASON
(79% Report Card Return)

Hunt Number	Name of Area	Tags Issued	Report Cards Received	Number Did Not Hunt	Number Hunted	Reported Harvest	Percent Success	Hunter Days
435A	Paulina-North Wagontire	35	33	0	33	19	58	85
436	Maury	35	24	1	23	13	57	55
437	Ochoco	70	62	3	59	47	80	114
438	Grizzly	5	5	0	5	5	100	6
446	Murderer's Creek	40	28	0	28	27	96	43
451A	North Sumpter	10	5	0	5	5	100	7
451B	South Sumpter	10	9	0	9	7	78	16
464	Lookout Mountain	10	10	0	10	9	90	17
465	Beulah	50	42	0	42	27	64	94
466	Malheur River	135	99	1	98	81	83	204
467	Owyhee	75	58	3	55	32	58	156
468	Whitehorse	150	120	1	119	58	49	362
469	Steens Mountain	125	95	0	95	49	52	252
470A	East Beatys Butte	80	69	4	65	43	66	145
470B	West Beatys Butte	60	50	1	49	33	67	100
470C	National Antelope Refuge	15	11	0	11	11	100	27
471	Juniper	100	73	3	70	49	70	172
472	Silvies	25	19	1	18	14	78	41
473A	South Wagontire	25	21	0	21	16	76	43
474	Warner	25	20	1	19	15	79	44
475A	East Interstate	50	35	0	35	19	54	92
476A	Fort Rock-Silver Lake	20	15	0	15	10	67	33
		1,150	903	19	884	589	67	2,108
1978 Doe Antelope Season								
437A	Portion Ochoco	30	27	3	24	22	92	42
446A	Murderer's Creek	50	34	2	32	23	72	67
446B	Murderer's Creek	50	32	0	32	27	84	50
		130	93	5	88	72	82	159
1978 Bow Antelope Season								
475B	Gerber Reservoir	200	79	13	66	1	2	265

Table 3 (cont'd)

1978 ANTELOPE HERD COMPOSITION
(Continued)

Area	Wildlife Management District	Antelope Classified				Bucks Per 100 Does			Fawns Per 100 Does		
		Bucks	Does	Fawns	Total	1978	1977	Ave.	1978	1977	Ave.
Steens Mt.	Harney	42	195	62	299	22	17	29	32	22	36
Warner	Lake	27	164	56	247	17	7	20	34	22	29
Whitehorse	Malheur	31	128	34		27			24		
	Harney	5	31	13							
		36	159	47	242	23	15	22	30	28	36
TOTALS AND AVERAGES		559	2,266	793	3,618	25	26	28	35	30	36

Table 4

Bear Valley Herd Composition

Year	Antelope Classified				Total	per 100 does	
	Bucks	Does	Kids	Unclass.		Bucks	Kids
1972	35	74	76	14	199	47	103
1973	80	73	42	1	196	110	58
1974	22	89	51	-	162	25	57
1975	46	103	102	-	251	45	99
1976	91	149	138	-	378	61	93
1977	142	210	146	-	498	71	73
1978	79	112	56	-	247	71	50

RANGE CONDITION AND TREND
LAKEVIEW DISTRICT
RICHARD A. GERITY, DISTRICT MANAGER
BUREAU OF LAND MANAGEMENT

The Lakeview District is currently developing land use plans as a first step in writing an Environmental Impact Statement on livestock grazing. As a part of this process, we have been collecting new data on range condition to compare with that collected in previous years. We now have three complete range condition surveys that cover a span of twenty years.

The method used was the Deming II Phase range condition and trend survey. This system subjectively rates the composition, desirability, density and reproduction of the forage, as well as the protective cover, natural vulnerability, runoff resistance and stability of the soil mantle. To maintain consistency between studies, the field maps, locations and plant lists used in 1958 and 1964 were used during the 1978 survey.

For the portion of the Lakeview District of concern to the Interstate Antelope Committee (state line to Hart Mountain - approximately 700,000 acres) the results of the range condition surveys over time are as follows:

<u>Condition</u>	<u>% By Year</u>		
	<u>1958</u>	<u>1964</u>	<u>1978</u>
Good	7%	4%	12%
Fair	49%	42%	79%
Poor	34%	49%	9%
Bad	10%	5%	0%

Between 1958 and 1978, the range trend on this 700,000 acres has been: Improving 58%, Static 38%, Declining 4%.

Our studies indicate a gradual, but significant deterioration in range condition between 1958 and 1964. Since 1964, there has been a very marked improvement in range condition - 56,000 acres have improved from fair to good condition and 259,000 acres from poor to fair condition.

This area was adjudicated (livestock use brought to carrying capacity) between 1959 and 1963. From this, it would seem that the decline in range condition noted between 1958 and 1964 was caused by overstocking the range with cattle. The adjudication of forage has apparently corrected this problem. Range condition has been getting better and the trend improving under the adjudicated

RANGE CONDITION AND TREND (Continued)

(and current) levels of livestock use, and there is no reason to suspect that this improvement in the range would not continue were this present level of livestock use maintained.

As a point of comparison, range condition on the district as a whole rated as follows:

<u>Condition</u>	<u>1958</u>	<u>% By Year</u>	
		<u>1964</u>	<u>1978</u>
Good	9%	6%	17%
Fair	47%	33%	55%
Poor	26%	40%	24%
Bad	18%	21%	4%

EXHIBIT 1000 (continued)

(and current) labels of livestock use, and there is no reason to suspect that this information in the range would not continue to be this present level of livestock use maintained.

As a point of comparison, range condition on the district as a whole is as follows:

Condition	1968	1969	1970
Good	42	42	42
Fair	47	47	47
Poor	11	11	11
Bad	0	0	0

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